

REMARKS

With the cancellation of claims 10-19 and addition of claims 21 and 22, claims 1-9 and 20-22 are now pending in the above-referenced application and are submitted for the Examiner's reconsideration.

Claim 20 stands rejected under 35 U.S.C. § 112, ¶2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Based on the amendment to claim 20, Applicants submit that this rejection has been obviated.

Claims 1-3, 6-9, and 20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent No. 6,189,484 to Yin et al. ("Yin"). Applicants have amended claims 1 and 20 to recite that the at least two magnetic field coils are adapted to create a nearly field-free drift zone in between the at least two magnetic field coils inside the reactor. Support for this amendment is found in at least page 13, lines 5-11, of the specification, and in Figure 1. Unlike the claimed invention, the magnetic fields created by magnets 150A, 150B, and 150C reinforce each other to create a magnetic bucket in which no field-free drift zone exists. Column 7, lines 38-41. That no such field-free drift zone is created by the apparatus in Yin is revealed by the illustration in Figure 4 of the magnetic bucket. As the Examiner will see, the magnetic fields that form this bucket do not cancel each other out to any extent, much less to an extent necessary to create the recited field-free drift zone. Accordingly, based on this amendment, withdrawal of the rejection of claims 1 and 20 is respectfully requested.

As for claims 2, 3, and 6-9, Applicants submit that these claims are patentable for at least the same reasons given above.

Notwithstanding the above argument, Applicants submit the following additional arguments in support of the patentability of claims 2 and 3. Claim 2 recites that the at least two magnetic coils surround the reactor in at least some areas between the ICP source and the at least one of the substrate and the silicon body. The "reactor" in claim 2 refers to the "reactor" first recited in claim 1, which generates the inductively coupled plasma. The reactor in Yin in which plasma 136 is generated is bell jar 112. Column 5, lines 34-41. As Figure 1 illustrates, bell jar 112 is arranged above magnets 150A, 150B, and 150C, the

elements characterized by the Examiner as meeting the magnetic coil limitation recited in the claims. Since these magnets (150A-150C) do not surround in any way bell jar 112, the element in which plasma 136 is generated, Yin does not teach the limitations recited in claim 2.

As for claim 3, the Examiner asserts that the channels 152A, 152B, and 152C create spacers that meet those recited in claim 3. Applicants disagree. Claim 3 recites that the spacers are formed in the wall of the reactor in which the plasma is generated. In Yin, the spacers are formed by channels 152A, 152B, and 152C formed in wall 104 of chamber 102, which does not meet the recited reactor because the plasma in Yin is created above chamber 102 in bell jar 112. Accordingly, withdrawal of the rejection of claim 3 is requested.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yin in view of United States Patent No. 6,247,425 to Lymberopoulos et al. ("Lymberopoulos"). Since Lymberopoulos does not overcome the deficiencies noted above with respect to Yin, Applicants submit that claim 4 is patentable for at least the same reasons given in support of the patentability of claim 1.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yin in view of United States Patent No. 6,333,269 to Naito et al. ("Naito"). Since Naito does not overcome the deficiencies noted above with respect to Yin, Applicants submit that claim 5 is patentable for at least the same reasons given in support of the patentability of claim 1. Notwithstanding the above, Applicants further submit that claim 5 is patentable over the combination of Yin and Naito because Yin teaches away from the oppositely directed coil currents taught by Naito. In particular, Yin, as discussed above, teaches that the magnetic fields produced by magnets 150A-150C produce what Yin terms a "magnetic bucket", which is illustrated in Figure 4. To modify Yin by adopting the oppositely directed coil currents of Naito would amount to eliminating the magnetic bucket that Yin seeks to create, which in turn would prevent Yin from achieving an expressly articulated purpose, namely, preventing the plasma from contacting the sidewall of chamber 102. Column 8, lines 46-56. Accordingly, because the teaching of Naito, when applied to Yin, would eviscerate one of the purposes of the Yin apparatus, one may reasonably state that Yin teaches away from adopting this particular teaching of Naito. Accordingly, withdrawal of the rejection of claim 5 is requested.

Applicants have submitted new claims 21 and 22. These claims, although depending from different independent claims, recite that the reactor (in the case of claim 21) and the means for generating the inductively coupled plasma (in the case of claim 22) are adapted to accommodate the at least one of the substrate and the silicon body. Support for

these new claims is found at least in Figure 1. These claims refer to a reactor (or means) that generates an inductively coupled plasma. In Yin, that plasma generation function is accomplished in bell jar 112. Since bell jar 112, the only element of Yin that can possibly meet the "reactor" limitation of the claims, is incapable of accommodating wafer 140, which is too large to be accommodated by bell jar 112 and is instead accommodated by chamber 102, Applicants submit that these claims are distinguishable over Yin. Moreover, Applicants submit that these claims are distinguishable over the other references relied on by the Examiner.

It is respectfully submitted that the subject matter of the present application is new, non-obvious, and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,

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